

Claims

- [c1] 1. A protection device (10) for protecting a brake disk (12) in a disk brake from dirt particles, said protection device comprising:
at least one protection means (13) configured to partly surround brake disk (12) of a disk brake when installed therewith;
said at least one protection means (13) being adapted to be mounted on a vehicle's wheel suspension (11) and is at least partly constructed from material that is shape-influenced by heat; and
said at least one protection means (13) having a first end position that effectively prevents dirt particles and relative wind from directly striking an associated brake disk and a second end position which allows relative wind to strike the associated brake disk (12) directly so as to obtain cooling of the associated brake disk (12), the first end position being assumed when a temperature of the protection means (13) lies below a first temperature and the second end position occurs when the temperature of the protection means (13) exceeds a second temperature.
- [c2] 2. The protection device as recited in claim 1, wherein the protection means (13) changes shape continuously from the first end position to the second end position.
- [c3] 3. The protection device as recited in claim 1, wherein the protection means (13) changes shape stepwise from the first end position to the second end position.
- [c4] 4. The protection device as recited in claim 1, wherein the protection device is configured to be fixedly located relative to a brake caliper of the disk brake.
- [c5] 5. The protection device as recited in claim 1, wherein the protection means

(13) is configured to react to heat radiation from the brake disk (12).

- [c6] 6. The protection device as recited in claim 1, wherein the protection means (13) further comprises a plurality of radial tongues having a radially inner end connectable to the wheel suspension (11) of a vehicle.
- [c7] 7. The protection device as recited in claim 1, wherein the protection means (13) is rotatable about a longitudinal axis thereof.
- [c8] 8. The protection device as recited in claim 1, wherein the protection means (13) further comprises a plurality of peripherally movable tongues located along an outer edge of the protection device.
- [c9] 9. The protection device as recited in claim 1, wherein the protection means (13) includes an opening (14) that assumes the form of a sector-shaped arc portion when the protection means (13) is in the second end position.
- [c10] 10. The protection device as recited in claim 1, wherein the protection means (13) is L-shaped.
- [c11] 11. The protection device as recited in claim 10, wherein the heat-influencable material is located in an angle between two legs (13a, 13b) of the L-shaped protection means (13).
- [c12] 12. The protection device as recited in claim 1, wherein the heat-influencable material is located at a radially inner end of the protection means (13).
- [c13] 13. The protection device as recited in claim 1, wherein the protection means (13) is comprised, at least partially, by a bimetal.
- [c14] 14. The protection device as recited in claim 1, wherein the protection device is configured to be located sufficiently close to a brake disk (12) that the device absorbs and dissipates heat from the brake disk (12).

- [c15] 15. A protected vehicular disk brake arrangement shielded from contamination particles, said arrangement comprising:
- a contamination shield (13) mounted to a suspension of a carrying vehicle and surrounding an associated brake disk (12), said shield being at least partly constructed from temperature reactive material characterized by being shape-influenced by heat produced by the associated brake disk (12) when performing a braking function and thereby varying an amount of cooling air supplied to the associated brake disk (12) in dependence upon brake temperature; and
- said contamination shield (13) having a closed configuration that precludes contamination particulate and cooling air from directly striking the associated brake disk (12) and an open configuration that allows cooling air to directly strike the associated brake disk (12), the closed configuration being assumed when a temperature of the contamination shield (13) lies below a first predetermined temperature and the open configuration being assumed when the temperature of the contamination shield (13) exceeds a second predetermined temperature.
- [c16] 16. The arrangement as recited in claim 15, wherein the contamination shield (13) is adapted to change shape continuously between the open and closed configurations.
- [c17] 17. The arrangement as recited in claim 15, wherein the contamination shield (13) is adapted to change shape stepwisely between the open and closed configurations.
- [c18] 18. The arrangement as recited in claim 15, wherein the contamination shield (13) is fixedly located proximate a brake caliper.
- [c19] 19. The arrangement as recited in claim 15, wherein the contamination shield

(13) further comprises a plurality of radially extending tongues.

[c20] 20. The arrangement as recited in claim 15, wherein the contamination shield (13) further comprises a plurality of peripherally movable tongues.

[c21] 21. The arrangement as recited in claim 15, wherein the contamination shield (13) is L-shaped.

[c22] 22. The arrangement as recited in claim 21, wherein the temperature reactive material is located in an angle between two legs (13a, 13b) of the L-shaped contamination shield (13).

[c23] 23. The arrangement as recited in claim 15, wherein the contamination shield (13) is comprised, at least partially, by a bimetal.

[c24] 24. The arrangement as recited in claim 15, wherein the contamination shield (13) is located sufficiently close to the associated brake disk (12) to absorb and dissipate heat therefrom.